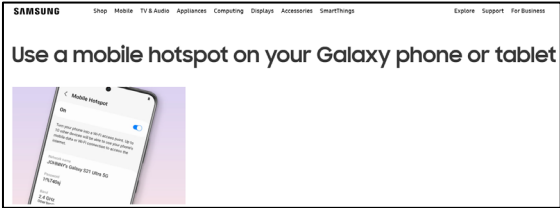


# EXHIBIT 13


**EXHIBIT 13 – CLAIM CHART FOR U.S. PATENT 7,676,194**

Claim 1	Accused Hotspot Devices <sup>1</sup>	Accused RAN Products <sup>2</sup>
<p>[1PRE] A broadband wireless repeater, comprising:</p>	<p>Accused Hotspot Devices, such as smartphones, (e.g., Galaxy S20-S25, Galaxy Z Flip 3-6, Galaxy Z Fold 2-6, Galaxy Note 20 Ultra, and Galaxy Series A smartphones), tablets (e.g., Galaxy Tab S series tablets), Hospitality TVs (e.g., NJ670, NT670, NJ678, NT678, NJ690, NT690, NC890, HQ60A), and smart hub devices (e.g., SmartThings Wifi, SmartThings Hub, Connect Home, Connect Home Pro), can serve as a broadband wireless repeater when in a mode to operate as a mobile hotspot. So configured, the Accused Hotspot Devices connect one or more mobile devices via a Wi-Fi network to the Internet or via a cellular network to the Internet.</p> <p>See Samsung website (<a href="http://www.samsung.com/us/support/answer/ANS00079036/">www.samsung.com/us/support/answer/ANS00079036/</a>) explaining how to use a mobile hotspot on a Galaxy phone or tablet.</p> 	<p>Accused RAN Products (e.g., Massive MIMO Radios, CBRS radios, Compact Macros, and Link Cells) act as a wireless repeater to broadcast received wireless signals to connected devices via, for example, a 5G cellular network, and to receive and forward wireless signals received from the connected devices to the Internet via a 5G cellular network.</p> <p>Massive MIMO Radio: See <a href="http://www.samsung.com/global/business/networks/products/radio-access/massive-mimo-radio/">www.samsung.com/global/business/networks/products/radio-access/massive-mimo-radio/</a></p> <p>Citizens Broadband Radio Service (CBRS) Radios enable communication of 150MHz of shared spectrum in Band 48 (otherwise known as the 3.5GHz C-Band). See <a href="https://insights.samsung.com/2022/11/04/what-is-cbrs-and-how-is-it-transforming-enterprise-networks-2/">https://insights.samsung.com/2022/11/04/what-is-cbrs-and-how-is-it-transforming-enterprise-networks-2/</a> and <a href="https://www.samsung.com/global/business/networks/products/radio-access/cbrs/">https://www.samsung.com/global/business/networks/products/radio-access/cbrs/</a></p> <p>Compact Macro: See <a href="https://www.samsung.com/global/business/networks/insights/brochures/1221-5g-fixed-">networks/insights/brochures/1221-5g-fixed-</a></p>

<sup>1</sup> Upon information and belief, all Accused Hotspot Devices function in a substantially similar manner for the relevant accused functionality.

<sup>2</sup> Upon information and belief, all Accused RAN Products function in a substantially similar manner for the relevant accused functionality.

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		<p>wireless-access-a-powerful-alternative-to-fiber-to-the-home/5g-fixed-wireless-access-a-powerful-alternative-to-fiber-to-the-home.pdf</p> <p>5G Link Cell: See <a href="https://images.samsung.com/is/content/samsung/assets/global/business/networks/insights/white-papers/bringing-5g-indoors-the-critical-next-step-in-5g-evolution/Samsung-Link-Series.pdf">images.samsung.com/is/content/samsung/assets/global/business/networks/insights/white-papers/bringing-5g-indoors-the-critical-next-step-in-5g-evolution/Samsung-Link-Series.pdf</a></p> 
<p>[1A] at least one receiver for receiving electronic signals at least some of which are sent by one or more ultrawideband</p>	<p>The Accused Hotspot Devices include a receiver for receiving electronic signals sent from a “connected device” that is connected wirelessly to the Accused Hotspot devices via WiFi5, WiFi6, or WiFi6E, all of which have 160 MHz channels. Thus, the Accused Hotspot devices can receive electronic signal from an “ultrawideband wireless device” (e.g., a wireless device communicating with a signal having an instantaneous or overall occupied bandwidth of 100 MHz or more).</p> <p>The “at least one receiver” comprises the WiFi receiver of the Accused Hotspots.</p>	<p>The Accused RAN Products include 5G radio chipsets, which comprise at least one receiver for receiving wireless signals from a connected ultrawideband device (e.g., a wireless device communicating with a signal having an instantaneous or overall occupied bandwidth of 100 MHz or more).</p> <p>See <a href="https://www.samsung.com/global/business/networks/insights/press-release/0621-samsung-unveils-new-chipsets-to-enhance-next-generation-5g-ran-portfolio/">www.samsung.com/global/business/networks/insights/press-release/0621-samsung-unveils-new-chipsets-to-enhance-next-generation-5g-ran-portfolio/</a>.</p>

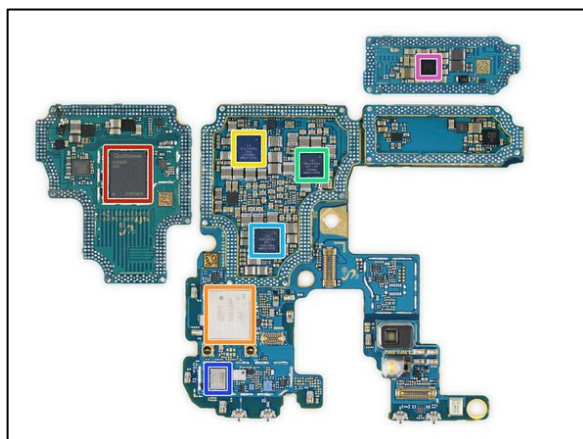
**EXHIBIT 13 – CLAIM CHART FOR U.S. PATENT 7,676,194**

wireless devices<sup>3</sup>  
in a network, and

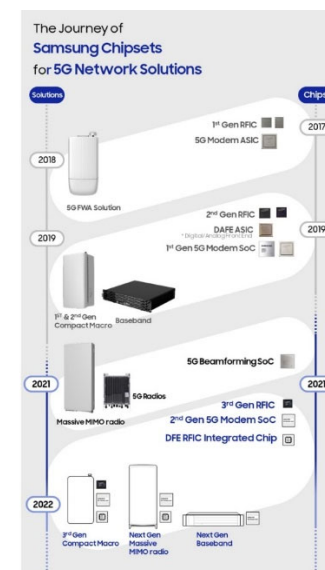
Below is an image of a Galaxy S20 Ultra circuit board, showing in the orange rectangle, a Murata KM9D19075 Wi-Fi module, which comprises “at least one receiver for receiving electronic signals at least some of which are sent by one or more ultrawideband wireless devices in a network.”

See

[www.ifixit.com/Teardown/Samsung+Galaxy+S20+Ultra+Teardown/131607?srsId=AfmBOorbKmG1FgZYkgqQsKc3mMYaHd6vA\\_c9nDDoDhWlKt\\_IkjlHRT-t](https://www.ifixit.com/Teardown/Samsung+Galaxy+S20+Ultra+Teardown/131607?srsId=AfmBOorbKmG1FgZYkgqQsKc3mMYaHd6vA_c9nDDoDhWlKt_IkjlHRT-t)



As another example, below is an image of a Galaxy S22 Ultra circuit board a Broadcom Wi-Fi 6/6E chip, which comprises “at least one receiver for receiving electronic signals at least some of which are sent by one or more ultrawideband wireless devices in a network.”

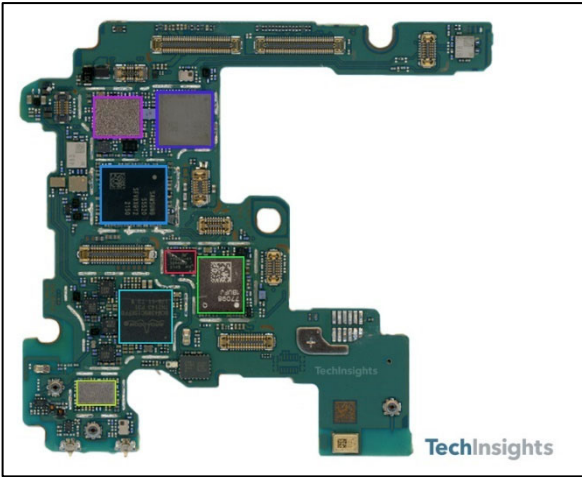


The Accused RAN Products operate at 5G, which has NR bands that have bandwidths of 100 MHz or more, such as the n41, n48, n77, n260 and n261 bands.

As described on Samsung’s website, the Accused RAN Products, for CBRS Radios, “operate[s] over the entire CBRS Spectrum of 150MHz and can simultaneously transmit a combination of contiguous or non-contiguous 10 or 20MHz carriers, across the entire CBRS

<sup>3</sup> “Ultrawideband” is defined in the ’194 Patent specifically as “any type of electromagnetic signal that have an instantaneous or overall occupied bandwidth of 100 MHz or more and that are used to communicate or to position-locate between two or more devices.” ’194 Patent at col. 3:57-60.

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	<p>See <a href="http://www.techinsights.com/blog/samsung-galaxy-s22-ultra-teardown">www.techinsights.com/blog/samsung-galaxy-s22-ultra-teardown</a></p>  <p>Samsung's website describes the specification of the HQ60A series hospitality TVs as including a software access point (SoftAP). The SoftAP feature allows the Hospitality TV to deploy hotspot for the hotel guests to connect to the internet.</p>	<p>Band for both PAL and GAA, up to 100MHz.”</p> <div data-bbox="1297 331 1892 558"><p><b>Expediting Powerful CBRS Service</b></p><p>Samsung's CBRS solutions provides simultaneous support of LTE and 5G. For operators who want to operate a LTE network, our solution provides a simple software upgrade path for smooth migration to 5G NR for additional performance growth. Samsung's CBRS Massive MIMO macro radio is an essential solution that supports high speed, wide bandwidth and massive data capacity. The product operates over the entire CBRS Spectrum of 150MHz and can simultaneously transmit a combination of contiguous or non-contiguous 10 or 20MHz carriers, across the entire CBRS Band for both PAL and GAA, up to 100MHz. This is an unmatched quality by other commercial solutions. The Massive MIMO Radio also uses a large number of antenna elements that create multiple beams to precisely target devices and supports MU-MIMO (multi-user MIMO) that increase user throughput by minimizing interference. Even with powerful performance, the product has a slim design with rounded sides and is lightweight so that it can blend in easily with the surrounding environment after installation.</p></div> <p>See <a href="https://www.samsung.com/global/business/networks/products/radio-access/cbrs/">https://www.samsung.com/global/business/networks/products/radio-access/cbrs/</a></p>
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	<div><div><div><b>Samsung LYNK™ Cloud</b> Yes</div><div><b>Hospitality Plug&amp;Play (Easy Set-up)</b> Yes</div><div><b>Hotel Channel List</b> Yes</div><div><b>Mixed Channel List (ATSC, DVB-T/T2/C/S2, Analog)</b> Yes</div><div><b>Energy Saving Mode (BLU Control)</b> Yes</div><div><b>Clock Back Up Supply</b> Yes</div><div><b>Soft AP</b> Yes</div><div><b>Samsung LYNK™ DRM</b> Yes</div><div><b>Security Mode</b> Yes</div></div></div> <div><p>See</p><p><a href="https://www.samsung.com/ca/business/commercial-tvs/hotel-tv/hq60a-4k-qled-hg65q60aanfxza/">https://www.samsung.com/ca/business/commercial-tvs/hotel-tv/hq60a-4k-qled-hg65q60aanfxza/</a></p><p>As shown in the image below, Samsung’s website describes the specifications of the HQ60A Series Hospitality TV as</p></div>	
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	<p>supporting the WiFi5 generation (i.e, IEEE 802.11ac). According to IEEE 802.11ac, the Accused Hotspot Device supports a channel width of up to 160 MHz and data transmission speeds of up to 6.93 Gbps.</p> <div><p><b>USB</b> 2 x USB-A</p><p><b>Digital Audio Out (Optical)</b> 1</p><p><b>Ex-Link (Supports RS-232C Gender)</b> Supports Stereo Jack to RS232 Adapter</p><p><b>Wifi</b> Yes (WiFi5)</p><p><b>Variable Audio Out</b> Yes</p><p><b>RJ12 (Side/Rear)</b> Yes</p></div> <p>See <i>id.</i></p> <p>In another example, the Accused Hotspot Devices (Connect Home Pro) can connect a user mobile device to other smart devices through a Wi-Fi network. This allows the Accused Hotspot Devices to send and receive wireless data over a Wi-Fi network.</p>	
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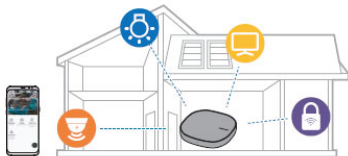
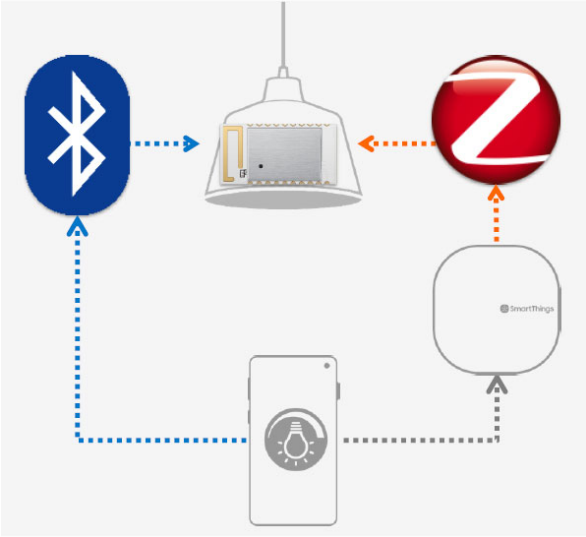
	<p>See <a href="https://content.syndigo.com/asset/17adf894-afac-49a6-9e43-acc47d706188/original.pdf">https://content.syndigo.com/asset/17adf894-afac-49a6-9e43-acc47d706188/original.pdf</a></p> <p><b>About SAMSUNG Connect Home (Pro)</b></p> <p>The Samsung Connect Home (Pro) is a Wi-Fi router that can connect your smartphone to your smart home appliances via Wi-Fi. You can also connect Internet of Things (IoT) devices to this Wi-Fi hub via the Samsung SmartThings Hub feature.</p> <p>For larger homes, you can connect more Wi-Fi hubs.</p> 	
<p>[1B] at least one transmitter for transmitting received, modified, or stored electronic signals or data, wherein said at least one receiver and at least one transmitter may be separate components or be combined as a transceiver, and wherein said at least one receiver and at least one transmitter may be dedicated receive</p>	<p>The Accused Hotspot Devices include Wi-Fi modules and/or 5G modems that comprise transmitters for transmitting data to the connected device.</p> <p>The Accused Hotspots also include cellular (e.g., 4G LTE or 5G) modems for transmitting signals via a cellular network.</p> <p>For example, the Samsung Galaxy S20 Ultra includes a Qualcomm SDX55M 2nd-gen 5G modem and the Samsung Galaxy S22 Ultra includes a Samsung Exynos 2200 Application Processor and Modem.</p> <p>See <a href="https://www.ifixit.com/Teardown/Samsung+Galaxy+S20+Ultra+Teardown/131607?srltid=AfmBOopOTcIPFaJiIRUPiDe p9-XATBYRH6xkMpaeDF27wAPov8Js8KhL">https://www.ifixit.com/Teardown/Samsung+Galaxy+S20+Ultra+Teardown/131607?srltid=AfmBOopOTcIPFaJiIRUPiDe p9-XATBYRH6xkMpaeDF27wAPov8Js8KhL</a></p> <p>and <a href="https://www.techinsights.com/blog/samsung-galaxy-s22-ultra-teardown">https://www.techinsights.com/blog/samsung-galaxy-s22-ultra-teardown</a></p>	<p>The 5G radio chipsets, in the Accused RAN Products, include at least one transmitted for transmitting received, modified, or stored electronic signals or data to the connected ultrawideband device.</p> <p>See <a href="http://www.samsung.com/global/business/networks/insights/press-release/0621-samsung-unveils-new-chipsets-to-enhance-next-generation-5g-ran-portfolio/">www.samsung.com/global/business/networks/insights/press-release/0621-samsung-unveils-new-chipsets-to-enhance-next-generation-5g-ran-portfolio/</a></p>



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<p>only and transmit only or may function alternatively as a receiver and as a transmitter; and</p>	<p>In one example, the transmitted data is data that is received via the Accused Hotspot Device’s 4G LTE or 5G network connection, and transmitted to the connected device (e.g., mobile user device).</p> <p>In another example, the image below shows that an Accused Hotspot Device (Q60A hospitality TV) uses at least a transmitter/receiver or a transceiver to establish wireless communication with a guest’s mobile device, over WiFi5 generation (i.e., IEEE 802.11ac).</p> <div><p><b>USB</b> 2 x USB-A</p><p><b>Digital Audio Out (Optical)</b> 1</p><p><b>Ex-Link (Supports RS-232C Gender)</b> Supports Stereo Jack to RS232 Adapter</p><p><b>Wifi</b> Yes (WiFi5)</p><p><b>Variable Audio Out</b> Yes</p><p><b>RJ12 (Side/Rear)</b> Yes</p></div>	
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	<p>see <a href="https://www.samsung.com/ca/business/commercial-tvs/hotel-tv/hq60a-4k-qlcd-hg65q60aanfxza/">https://www.samsung.com/ca/business/commercial-tvs/hotel-tv/hq60a-4k-qlcd-hg65q60aanfxza/</a></p> <p>In another example, the Accused Hotspot Devices (Connect Home Pro) can connect a user mobile device to other smart devices through a Wi-Fi network. This allows the Accused Hotspot Devices to send and receive wireless data over a Wi-Fi network.</p>  <p>See  <a href="https://download.led.samsung.com/led/file/resource/2020/06/Smart_Lighting_Solution_0602.pdf">https://download.led.samsung.com/led/file/resource/2020/06/Smart_Lighting_Solution_0602.pdf</a></p>	
<p>[1C] a controller, which is either pre-programmed or programmable</p>	<p>The Accused Hotspot Devices comprise a controller (e.g., processor) configured to identify an ultrawideband wireless devices.</p>	<p>A controller (e.g., processor) in the Accused RAN products can be programmed with an ID for the connected ultrawideband device, which is an example of “network information</p>

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<p>with network information which at least identifies said one or more ultrawideband wireless devices,</p>	<p>For example, the Samsung Galaxy S20 Ultra comprises, among other things, a STMicroelectronics STM32G071EB 32-bit ARM microcontroller and a Qualcomm SDX55M 5G modem. See <a href="http://www.ifixit.com/Teardown/Samsung+Galaxy+S20+Ultra+Teardown/131607?srltid=AfmBOorbKmG1FgZYkgqQsKc3mMYaHd6vA_c9nDDoDhWlkT_IkjlHRT-t">www.ifixit.com/Teardown/Samsung+Galaxy+S20+Ultra+Teardown/131607?srltid=AfmBOorbKmG1FgZYkgqQsKc3mMYaHd6vA_c9nDDoDhWlkT_IkjlHRT-t</a></p> <p>In another example, the Samsung Galaxy S22 Ultra comprises, among other things, a Samsung RF Transceiver S5520, a Broadcom Front-End Module AFEM-9140, a Skyworks Front-End Module SKY58083-11, a Broadcom Wi-Fi 6/6E&amp;BT 5.0 SoC BCM4389, and a Qorvo Front-End Module QM77098. <a href="http://www.techinsights.com/blog/samsung-galaxy-s22-ultra-teardown">www.techinsights.com/blog/samsung-galaxy-s22-ultra-teardown</a></p> <p>Wi-Fi protocols, such a WiFi5, WiFi6 and WiFi6E, use IP and/or MAC addresses to identify connected devices. See e.g., <a href="http://www.techtarget.com/searchnetworking/answer/What-is-the-difference-between-an-IP-address-and-a-physical-address#:~:text=The%20physical%20address%20%2D%2D%20or,to%20get%20to%20its%20destination.">www.techtarget.com/searchnetworking/answer/What-is-the-difference-between-an-IP-address-and-a-physical-address#:~:text=The%20physical%20address%20%2D%2D%20or,to%20get%20to%20its%20destination.</a></p> <p>The IP and/or MAC addresses are examples of “network information” that identifies the connected “ultrawideband” device.</p> <p>The Accused Hotspot Devices utilize WPA2 and/or WPA3 protocols to allow for secure broadcasting of a WiFi hotspot, which employs a handshake sequence that requires identification via network information of devices requesting to join the mobile hotspot.</p>	<p>which at least identifies” the connected ultrawideband device. The ID can be, for example, the IMEI (International Mobile Equipment Identity) number, the IMSI (International Mobile Subscriber Identity) number, the IP address, and/or the MAC address of the connected ultrawideband device.</p> <p>The Accused RAN Product need the connected device’s ID in order to communicate with the connected device via 5G.</p> <p>See amit-khandelwal.medium.com/understanding-5g-eab4a660d3ab;</p> <p><a href="http://interlir.com/2024/08/01/the-impact-of-5g-on-ip-resource-management/">interlir.com/2024/08/01/the-impact-of-5g-on-ip-resource-management/</a></p>
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	<p>See <a href="https://insights.samsung.com/2022/12/16/how-to-turn-your-galaxy-smartphone-into-a-hotspot-3/">https://insights.samsung.com/2022/12/16/how-to-turn-your-galaxy-smartphone-into-a-hotspot-3/</a></p> <p><a href="https://en.wikipedia.org/wiki/Wi-Fi_Protected_Access">https://en.wikipedia.org/wiki/Wi-Fi_Protected_Access</a></p> <p>In another example, the image below shows that the Samsung operating system, Tizen, on Hospitality TVs is programmable through a network API to configure the TVs network settings to identify an ultrawideband wireless device.</p> <pre> NetworkManager void removeWpaConfig(WpaConfig *wpaConfig, unsigned long identifier); DOMString getWIFISid(); long getWIFISignalStrengthLevel(); NetworkWIFISecurityMode getWIFISecurityMode(); NetworkWIFIEncryptionType getWIFIEncryptionType(); DOMString getSecondaryDns(); void setDhcpOptions6Field(DOMString vendorName); void removeDhcpOptions6Field(); DOMString getCurrentDhcpOptions6Field(); DOMString checkCurrentTptWith6Field(); void enableSoftAP(); void disableSoftAP(); boolean isSoftAPEnabled(); DOMString getSoftAPSSID(); void setSoftAPChannel(long channel); DOMString getSoftAPSecurityKey(); void setSoftAPSignalStrength(unsigned long power); void setEAPCAFilePath(DOMString path); void setEAPPassphrase(DOMString name, DOMString password); long getWIFIFrequency(); </pre> <p>See <a href="https://developer.samsung.com/smarttv/develop/api-references/samsung-product-api-references/network-api.html">https://developer.samsung.com/smarttv/develop/api-references/samsung-product-api-references/network-api.html</a></p>	
[1D] which controls the screening of data received by said at least one receiver, and either passes, ignores, rejects, redirects, modifies,	<p>The controller in the Accused Hotspot Devices uses, for example, the IP and/or MAC address of the connected ultrawideband wireless device to screen data received from the connected ultrawideband wireless device. In that connection, the controller in the Accused Hotspots uses, for example, the IP and/or MAC address of the connected ultrawideband wireless device, to screen out transmissions to/from other devices.</p>	<p>The controller in the Accused RAN Products uses, for example, the ID of the connected ultrawideband wireless device to screen data received from the connected ultrawideband wireless device. In that connection, the controller in the Accused RAN Products uses, for example, the IMEI, IMSI, IP and/or MAC address of the connected ultrawideband</p>

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<p>or kills received data</p>	<p>The Accused Hotspot Devices utilize WPA2 and/or WPA3 security protocols, which employ a handshake verification process that screens unwanted data from unauthorized devices attempting to join a WiFi mobile hotspot.</p> <p>See e.g., <a href="https://insights.samsung.com/2022/12/16/how-to-turn-your-galaxy-smartphone-into-a-hotspot-3/">insights.samsung.com/2022/12/16/how-to-turn-your-galaxy-smartphone-into-a-hotspot-3/</a></p> <p>See e.g., <a href="https://en.wikipedia.org/wiki/Wi-Fi_Protected_Access">en.wikipedia.org/wiki/Wi-Fi_Protected_Access</a></p> <p>In another example, the Samsung developer documentation, for the Tizen Operating system, states “[t]he SoftAP module allows a device to act as a Soft Access Point (SoftAP), enabling other devices to connect to the network it creates. Applications can use this module to configure and monitor the SoftAP’s status, manage network connectivity, and adjust security settings. It is primarily used in IoT environments to easily set up and maintain network access points.”</p> <p>See <a href="https://docs.tizen.org/application/native/api/common/latest/group__CAPI__NETWORK__SOFTAP__MODULE.html">https://docs.tizen.org/application/native/api/common/latest/group__CAPI__NETWORK__SOFTAP__MODULE.html</a></p> <p>The document below shows hardware and firmware configuration of an Accused Hotspot Devices, designed to protect wireless data communications.</p> <p>See <a href="https://download.led.samsung.com/led/file/resource/2020/06/Smart_Lighting_Solution_0602.pdf">https://download.led.samsung.com/led/file/resource/2020/06/Smart_Lighting_Solution_0602.pdf</a></p>	<p>wireless device, to screen out transmissions to/from other devices.</p> <p>See <a href="https://amitkhandelwal.medium.com/understanding-5g-eab4a660d3ab">amitkhandelwal.medium.com/understanding-5g-eab4a660d3ab</a>;</p> <p><a href="https://interlir.com/2024/08/01/the-impact-of-5g-on-ip-resource-management/">interlir.com/2024/08/01/the-impact-of-5g-on-ip-resource-management/</a></p>
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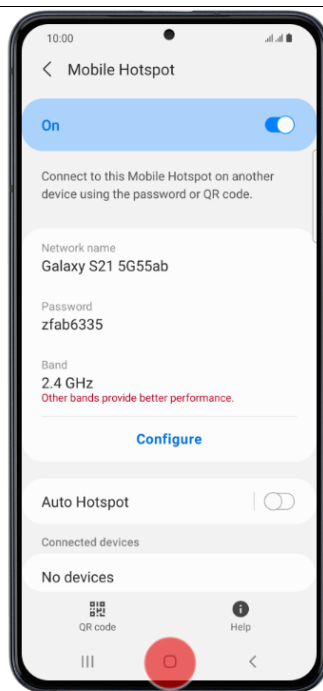
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	<p>SmartThings is built from the ground up to protect the device and users' data securely</p> <ul style="list-style-type: none"> <li>• Secure boot (SmartThings level 2 security)</li> <li>• H/W &amp; F/W security (Protected external ports)</li> <li>• Protected storage / communication (AES-128 encryption)</li> <li>• Set-up mode / Proximity set-up</li> <li>• Compliance with CA SB-327</li> </ul>	
<p>[1E] said controller providing such data screening in order to differentiate between desired and undesired data for network security, network management, or interference mitigation purposes for said network,</p>	<p>The controller of the Accused Hotspot Devices uses the ID of the connected ultrawideband device, e.g., its MAC and/or IP address, to screen out communications to or from the connected ultrawideband device for network security.</p> <p>The Accused Hotspot Devices utilize, for example, the WPA2 or WPA3 protocols, which are network security protocols that screen undesired data to ensure network security and provides network management via preventing undesired connections from other devices.</p> <p>For example, the Samsung developer documentation, for the Tizen Operating system, states “[t]he SoftAP module allows a device to act as a Soft Access Point (SoftAP), enabling other devices to connect to the network it creates. Applications can use this module to configure and monitor the SoftAP’s status, manage network connectivity, and adjust security settings. It is primarily used in IoT environments to easily set up and maintain network access points.”</p> <p>See  <a href="https://docs.tizen.org/application/native/api/common/latest/group__CAPI__NETWORK__SOFTAP__MODULE.html">https://docs.tizen.org/application/native/api/common/latest/group__CAPI__NETWORK__SOFTAP__MODULE.html</a></p>	<p>The controller of the Accused RAN Products uses the ID of the connected ultrawideband device, e.g., its IMEI, IMSI, IP or MAC addresses, to screen out communications to or from the connected ultrawideband device for network security.</p>
<p>[1F] said controller controlling</p>	<p>The controller of the Accused Hotspot Devices uses the ID of the connected ultrawideband device, e.g., its MAC and/or IP</p>	<p>The controller of the Accused RAN Products uses the ID of the connected ultrawideband</p>

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reception of electronic signals or data by said at least one receiver from said one or more ultrawideband wireless devices and transmission by said at least one transmitter to said one or more ultrawideband wireless devices,	<p>address, to control reception of signals or data from the connected ultrawideband device and transmission of signals to the connected ultrawideband device.</p> <p>The Accused Hotspot Devices utilize, for example, the WPA2 or WPA3 protocols, which are network security protocols that screen undesired data to ensure network security and provides network management via preventing undesired connections from other devices.</p>	device, e.g., its IMEI, IMSI, IP and/or MAC address, to control reception of signals or data from the connected ultrawideband device and transmission of signals to the connected ultrawideband device.
[1G] said controller further providing for the collecting, reporting, or storing of network usage, network statistics, or network information for said network.	<p>The controller of the Accused Hotspot Devices, among other things, stores the IDs of the connected ultrawideband wireless device, which is an example of “network information for said network.”</p> <p>For example, the Accused Hotspot Devices show the devices connected to the Wi-Fi network provided by the mobile hotspot. See e.g., <a href="https://devices.vodafone.com.au/samsung/galaxy-s21-5g-android-11-0/connectivity/use-your-phone-as-wi-fi-hotspot/">devices.vodafone.com.au/samsung/galaxy-s21-5g-android-11-0/connectivity/use-your-phone-as-wi-fi-hotspot/</a></p>	<p>The controller of the Accused RAN Products, among other things, stores the IDs of the connected ultrawideband wireless device, which is an example of “network information for said network.”</p> <p>Additionally, the Accused RAN Products adaptively improve beamforming based on users. See brochures/0804_samsungs-massive-mimo-radios-for-an-outstanding-5g-experience/0804_samsungs-massive-mimo-radios-for-an-outstanding-5g-experience_r2.pdf. To adaptively beamform, the Accused RAN Products need to know where users are located, which is an example of network information.</p>

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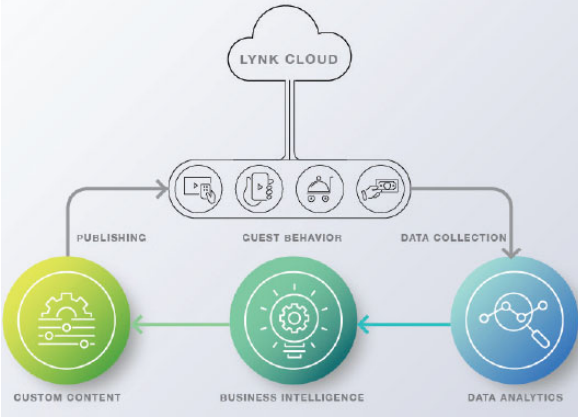
The Accused Hotspot Devices also track data usage when acting as a mobile hotspot. See [gadgetmates.com/check-how-much-hotspot-bandwidth-you-have-left-on-android](https://gadgetmates.com/check-how-much-hotspot-bandwidth-you-have-left-on-android)



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	<div data-bbox="478 191 978 935"></div> <p data-bbox="478 1003 1266 1114">See <a href="https://4041669.fs1.hubspotusercontent-na1.net/hubfs/4041669/00_BlueStar%20Microsite%20Files/Samsung/PDF/HQ60A_SERIES.pdf">https://4041669.fs1.hubspotusercontent-na1.net/hubfs/4041669/00_BlueStar%20Microsite%20Files/Samsung/PDF/HQ60A_SERIES.pdf</a></p>	
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Claim 8	Accused Hotspot Devices	Accused RAN Products
<p>[8] The broadband repeater of claim 1 wherein said controller either or both</p> <p>a) uses adaptive or steerable antennas or MIMO technologies to control the direction or coverage zones or capacity or quality of transmissions or reception, and</p> <p>b) directs undesired user or</p>	<p>The Accused Hotspot Devices use MIMO technology for both cellular and Wi-Fi connections. See e.g., <a href="https://r2.community.samsung.com/t5/Tech-Talk/What-is-4-4-MIMO-and-Does-My-Smartphone-Need-It/td-p/4938055">https://r2.community.samsung.com/t5/Tech-Talk/What-is-4-4-MIMO-and-Does-My-Smartphone-Need-It/td-p/4938055</a>;</p>	<p>The Accused RAN Products, including at least the Massive MIMO Radios use MIMO technology. See <a href="http://www.samsung.com/global/business/networks/products/radio-access/massive-mimo-radio/">www.samsung.com/global/business/networks/products/radio-access/massive-mimo-radio/</a></p>

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intruder information to be passed to other components of a network from said at least one transmitter using either wireless or wired connectivity.		
<b>Claim 22</b>	<b>Accused Hotspot Devices</b>	<b>Accused RAN Products</b>
[22PRE] A broadband wireless repeater, comprising:	See claim element [1PRE] above.	See claim element [1PRE] above.
[22A] at least one receiver for receiving electronic signals at least some of which are sent by one or more ultrawideband wireless devices in a network, and at least one transmitter for transmitting received, modified, or stored electronic signals or data, wherein	See claim elements [1A] and [1B] above.	<p>The radio chipset in the Accused RAN Products include at least one receiver and at least one transmitter. See claim elements [1A] and [1B] above.</p> <p>The radio chipset in the Accused RAN Products receives electronic signals from, and transmits electronic signals to, a connected ultrawideband device via, for example, at least 5G cellular.</p>

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<p>said at least one receiver and at least one transmitter may be separate components or be combined as a transceiver, and wherein said at least one receiver and at least one transmitter may be dedicated receive only and transmit only or may function alternatively as a receiver and as a transmitter; and</p>		
<p>[22B] a controller which is either pre-programmed or programmable to collect traffic information or security information related to received and transmitted data at least some of which is received from or sent to</p>	<p>The controller of the Accused Hotspot Devices collects, for example, the IP and/or MAC address of the connected ultrawideband device, which is an example of “security information related to received and transmitted data at least some of which is received from or sent to said one or more ultrawideband wireless devices in said network...”</p> <p>The controller of the Accused Hotspot Devices controls the reception of signals from, and transmission of signals to, the connected ultrawideband device.</p> <p>See element [1C] above.</p>	<p>The controller of the Accused RAN Products collects, for example, the IMSI, IMEI, IP and/or MAC address of the connected ultrawideband device, which is an example of “security information related to received and transmitted data at least some of which is received from or sent to said one or more ultrawideband wireless devices in said network...”</p> <p>The controller of the Accused RAN Products controls the reception of signals from, and transmission of signals to, the connected ultrawideband device.</p>

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said one or more ultrawideband wireless devices in said network, said controller controlling reception of electronic signals or data by said at least one receiver and transmission by said at least one transmitter.		See element [1C] above.
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